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UNCLAS PRETORIA 003202

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SUBJECT: SOUTH AFRICAN TECHNOLOGY HELPS IRAN MINE COPPER

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1. (SBU) Summary: Mintek, the South African state-owned minerals processing research institution, has entered into an agreement with the National Iranian Copper Industries Company (NICICO) to construct a USD 3-4 million heap bio-leaching pilot plant in Sarcheshmeh, Iran. Construction should begin before the end of the year. If the pilot plant proves successful, it could lead to the use of Mintek heap bio-leaching technology to produce copper from low-grade ore elsewhere in the world. End Summary.

2. (SBU) Mintek's Biotechnology Division manager Dr. Tony Pinches told us that Mintek had been working with the NICICO for three years to determine whether its copper ores were amenable to Mintek's heap bio-leaching technology. Pinches explained that while Mintek's technology offered a general solution to processing low-grade copper ore, it was especially suited for chalcopyrite (a sulfide), for which there was currently no economic treatment. With its many low-grade chalcopyrite deposits, Iran seemed the natural choice for a pilot-plant. Sarcheshmeh is the site of one of the world's largest low-grade copper mines, with a total ore reserve of 1.2 billion tons at an average grade of 0.7 percent copper.

3. (SBU) NICICO and Mintek will construct and operate two or three heap-leach pads at Sarcheshmeh, each capable of handling approximately 20 kilotons of low-grade copper ore. The copper-bearing solution derived from the leached ore will be treated by solvent extraction before being fed to the existing electro-winning facility to produce pure copper metal. Test results so far have been promising. Construction of the USD 3-4 million plant should begin before the end of the year. Pinches told us that the pilot plant would take two years to build, after which NICICO would have to decide whether to build a commercial plant.

4. (SBU) According to Mintek's agreement with NICICO, NICICO will acquire the exclusive right to Mintek heap bio-leaching technology in Iran as well as for any project where it holds at least a 10 percent stake. Mintek retains all other technology rights. If successful, Mintek's heap bio-leaching technology could find broad application in the international copper-mining industry, making the mining of many more copper deposits commercially viable and adding to world supply and reserves during a period of rising demand.

HUME